

Claims

- [c1] What is claimed is:
- 1.A redial system for a VoIP modem, comprising:
- a subscriber line interface circuit (SLIC), for interfacing analog telephone signals from a telephone set to the VoIP modem, and for generating, when receiving a dialed telephone number which matches a predetermined telephone number, redial signals to a public switched telephone network (PSTN);
- a first relay for selectively connecting the telephone set with the PSTN or connecting the telephone set with the SLIC;
- a dummy load;
- a second relay connected between the PSTN and the dummy load for selectively establishing or de-establishing a connection between the PSTN and the dummy load;
- a third relay connected between the first relay and the SLIC for selectively establishing or de-establishing a connection between the first relay and the SLIC; and
- a control means for controlling the second and third relays to establish the connection between the PSTN and the dummy load and de-establish the connection between the first relay and the SLIC during the generation of the redial signals.
- [c2] 2.The system of claim 1, wherein, after the generation of the redial signals, the first relay is switched to connect the telephone set with the PSTN and the control means controls the second relay to de-establish the connection between the PSTN and the dummy load.
- [c3] 3.The system of claim 1, wherein, after the generation of the redial signals, the control means controls the third relay to establish the connection between the first relay and the SLIC.
- [c4] 4.The system of claim 1, further comprising an off-hook and ring detect circuit electrically connected to the telephone set and the PSTN through the first relay for detecting an off-hook status of the telephone set and incoming calls.
- [c5] 5.The system of claim 4, further comprising a DTMF (dual tone multi-frequency)

redial coupling circuit electrically connected between the SLIC and the PSTN for passing the redial signals to the off-hook and ring detect circuit and isolating voltages of the off-hook and ring detect circuit from voltages of the SLIC.

[c6] 6.The system of claim 1, wherein the predetermined telephone number is stored in the SLIC.

[c7] 7.The system of claim 1 wherein the first relay is a mechanical relay.

[c8] 8.The system of claim 1 wherein the second and third relays are photo relays.

[c9] 9.A redial system for a VoIP modem, comprising:
a subscriber line interface circuit (SLIC), for interfacing analog telephone signals from a telephone set to the VoIP modem;
a first relay for selectively connecting the telephone set with the PSTN or connecting the telephone set with the SLIC;
a dummy load;
a second relay connected between the PSTN and the dummy load for selectively establishing or de-establishing a connection between the PSTN and the dummy load;
a control means for controlling the second relay to establish the connection between the PSTN and the dummy load and to alternatively de-establish and establish the connection between the PSTN and the dummy load so as to generate redial pulse signals to the PSTN when the SLIC receives pulse-dialing signals of a telephone number which matches a predetermined telephone number.

[c10] 10.The system of claim 9, wherein, after the generation of the redial pulse signals, the first relay is switched to connect the telephone set with the PSTN and the control means controls the second relay to de-establish the connection between the PSTN and the dummy load.

[c11] 11.An automatic redial method in a VoIP modem having a relay for selectively connecting a telephone set with a public switched telephone network (PSTN) or with a subscriber line interface circuit (SLIC) of the modem, the method comprising the steps of:

- a) controlling the relay to connect the telephone set with the SLIC;
- b) receiving in the SLIC a dialed telephone number which matches a predetermined telephone number;
- c) establishing a connection between the PSTN and a dummy load;
- d) de-establishing a connection between the relay and the SLIC;
- e) generating redial signals from the SLIC to the PSTN; and
- f) controlling the relay to connect the telephone set with the PSTN.

[c12] 12.The method of claim 11, further comprising the steps of:

- g) de-establishing the connection between the PSTN and a dummy load; and
- h) establishing the connection between the relay and the SLIC.

[c13] 13.An automatic redial method in a VoIP modem having a relay for selectively connecting a telephone set with a public switched telephone network (PSTN) or with a subscriber line interface circuit (SLIC) of the modem, the method comprising the steps of:

- a) controlling the relay to connect the telephone set with the SLIC;
- b) receiving in the SLIC pulse-dialing signals of a telephone number which matches a predetermined telephone number;
- c) establishing a connection between the PSTN and a dummy load;
- d) alternatively de-establishing and establishing the connection between the PSTN and the dummy load so as to generate redial pulse signals to the PSTN; and
- e) controlling the relay to connect the telephone set with the PSTN.

[c14] 14.The method of claim 13, further comprising the step of:

- f) de-establishing the connection between the PSTN and a dummy load.